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ABSTRACT

Cooperative learning and its effect on social skill enhancement and participation of third grade students in the setting of physical education class were studied. A pilot study with 16 third graders studied whether students exhibiting undesirable behavior could be identified through observation and provided information used to develop a cooperative learning curriculum. Of the 22 third graders participating (from a class of 24) in the study and intervention, 8 identified as having undesirable social skills were targeted. The intervention included cooperative learning and team-building activities and strategies in the context of the physical education class. Interviews were conducted with seven targeted students (one moved away during the intervention) and eight comparison students. Teachers rated the students before and after the intervention. Teacher ratings demonstrated no statistically significant changes in pre- and post-intervention scores, although a positive change appeared in social reasoning and a negative change in cooperative behavior. Classroom behavior scores were lower after the intervention, perhaps because the classroom teacher maintained a traditional classroom. Peer ratings did not suggest that students changed their social status as a consequence of the intervention. The intervention did provide the students with behavior problems some opportunities for empowerment, but they were not always able to put this empowerment to use socially. The cooperative activities enhanced social skills, but simply learning the skills was not enough to guarantee social success. (Contains 1 table, 7 figures, and 32 references.) (SLD)

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# The Effect of a Cooperative Learning Unit on the Social Skill Enhancement of Third Grade Physical Education Students

ED 409 327

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## Introduction

For children, establishing relationships with peers may be one of the most important accomplishments a child can achieve (Guralnick, 1986). Social interactions which result from the establishment of relationships with others, provide the opportunity for acquisition of basic social attitudes, beliefs and values (Solomon, Watson, Delucchi, Schaps, & Battistich, 1988). Children strive for effective social interactions with peers and teachers (McConnell, 1987) and thereby strengthen their social competence (Hughes, 1991). Because social interactions rely on the participation and balanced contribution of those interacting, inadequate social skills can lead to isolation and social inactivity. Research indicates that the quality of a child's peer relations may predict future problems with school avoidance, delinquency and mental health problems (Ladd, 1990).

In the school setting a number of contextual situations challenge a child's opportunity to learn and practice social skills. Research (Maag, 1989; 1990; 1994) has suggested that context plays a major role in the determination of social behavior and what behaviors are considered inappropriate. Maag (1994) states that "socially incompetent behavior is viewed as resulting from a 'poor fit' between the students and his or her ecosystem, a system that typically includes peers, teachers, instructional tasks, classroom structure and activities and the larger school community. (p. 104)" In other words, context may play an important role in whether a child is judged to be socially competent or not. Students, must therefore not only learn social skills, but learn to use them appropriately in a given social context (Maag, 1990).

The context of the physical education setting differs in a number of ways from the regular classroom setting. Rather than sitting in the classroom, students in the physical education setting engage in many more social interactions with their peers and with the teacher through activity, sharing equipment, and competition. Social competence appears to interact with participation levels in physical education (Page, Frey, Talbert, & Falk, 1992; Smith & Goc Karp, 1996). Page et al. (1992) suggest that a lack of social skills leads to a cycle of inactivity in physical education when poor social

interactions lead to rejection, causing reduced physical activity. Specifically, the physical education setting is one where children have an opportunity to experience more social interactions than in any other education setting. This makes the gymnasium or play field an ideal environment to study social skill enhancement.

Offering students the opportunity to learn and practice social skills may help them to develop a sense of control over their environment and assist in the process of gaining self-acceptance and self-confidence (Zimmerman, 1990a; Zimmerman & Rappaport, 1988). These experiences may then lead to what Zimmerman (1990b) calls learned hopefulness. The theory of learned hopefulness (the antithesis of learned helplessness) suggests that empowering experiences, those which provide opportunities to learn skills, can help individuals cope with the sometimes crippling effects of dealing with others socially. Learned hopefulness can lead to a sense of perceived or actual control of one's own environment. Zimmerman (1990b) further suggests that individual empowerment may include participatory behavior, such as decision-making, and feelings of efficacy and control.

Strain, Odom, and McConnell (1984) propose that interventions designed to teach social skills should focus, not only on target students, but on peers who regularly interact with the target student. Thus, the intervention should be designed to modify interactions rather than individuals (Maag, 1994). Treatment must focus not only on the targeted student, but on peers with whom the student interacts. One way to address both individual students and the class as a whole is through the incorporation of cooperative learning into the curriculum. Social psychologists have established that cooperative learning has an impact on social behavior and peer acceptance and is often employed in the classroom to teach positive social interaction (Johnson & Johnson, 1992). Hughes and Sullivan (1988) suggest that research designs should include not only measures of specific behaviors skills, but measures of social behaviors which are considered culturally acceptable. By the time children reach their elementary school years, social behavior, and peer-approval of that behavior becomes more complex and requires a wide variety of skills (Beirman & Montminy, 1993). Grade

school children begin to judge their own behaviors and the behaviors of their peers. It is at this time that expectancies for behavior are being formed. Hymel, Wagner, and Butler (1990) suggest that it is at this stage of social development, before peer reputations are firmly in place, that changes in unacceptable behavior will be more readily accepted by peers.

Many of the foundations of human behavior are theorized to lie in the games children play (Hughes, 1991). Games and play function as a means of self-validation and the development of positive interpersonal skills. Cooperative games may offer opportunities for acceptance for children who are shy, or lacking in self-confidence, those who don't feel liked or accepted or have inadequate social skills (Hughes, 1991). It is often easier for socially isolated children to find acceptance in groups in which cooperative strategies are implemented.

While one of the stated goals of physical education is the social development of the child (Siedentop, 1980), research relates little evidence that social skills or social competence are being developed through physical education participation (Giebink & McKenzie, 1985). A few researchers in the area of physical education have begun to address the issue of social development and cooperative learning. Don Hellison (1995) has focused on the development of social responsibility with inner city youth and Giebink and McKenzie (1985), addressed the development of sportsmanship behaviors. In addition, studies dealing with social skill development in the physical education setting have been reported (Carlson, 1995; DeBusk & Hellison, 1989; Dyson, 1995; Giebink & McKenzie, 1985; Hellison & Templin, 1991). Researchers indicate there may be a link between social skills and participation in the physical education setting (Smith & Goc Karp, 1996; Walling & Martinek, 1995). This study provides the opportunity to examine the impact of a cooperative learning curriculum on social skill enhancement, and in turn, participation. The purpose of the study was to explore cooperative learning and its effect on social skill enhancement and participation of third grade students in the physical education setting.

## Method

### Pilot Study

During the last 3 weeks of the fall semester and throughout the spring semester of 1994-95, a pilot study, with a third grade physical education class, was conducted in order to develop and test a cooperative learning curriculum, and to investigate whether students exhibiting undesirable behavior could be identified, through observation.

The third grade class consisted of 16 students, and one male physical education specialist. The class met on a rotating basis, twice one week, and three times the next week. Following four weeks of observation three students were identified as having social behavior deficits ranging from the inability to work in group situations to a lack of physical control. The following week, a number of cooperative learning strategies were incorporated into the curriculum once or twice weekly for 10 weeks. The concept of stages of cooperation was slowly incorporated into the curriculum, giving the students the time to learn and practice skills necessary to complete cooperative activities (Johnson & Johnson, 1992). As a result of the pilot study, both the investigator and the physical education teacher felt that the class as a whole, as well as two of the three targeted students, exhibited a greater degree of prosocial behavior. The pilot study set the necessary groundwork for this research study providing the opportunity to redefine and restructure the definition of acceptable or desirable behavior within the physical education setting.

Confidentiality. The study was approved by the Human Subjects Review Board at the investigator's university and consent form was sent home to be signed by the legal guardian of each student. Twenty-two signed consent forms were returned. Only those students returning signed consent forms were asked to fill out peer ratings or be informally interviewed throughout the study. All data collected were kept confidential and in a locked cabinet or secured computer and pseudonyms were used in any reporting of results.

### Context

East Meadow Elementary School is a small school with an enrollment of

approximately 200 students, with class size averaging 25 students. The school is located next to the local university and many of the students are children of university personnel and university students. The majority of the students in the school are Caucasian, however, there are a number of international students who are the children of foreign students attending the local university.

The third grade physical education class met for 40 minutes five times every two weeks. The schedule rotated from Tuesday/Thursday meetings one week, to Monday/Wednesday/Friday meetings the following week. A typical class consisted of a warm-up period, a main activity, and a closing activity. Students were assigned to squads and often participated in activities while in these groups.

Selection of Subjects

The participants of this study were a third grade class in a small elementary school in the Pacific Northwest, the physical education specialist, and the investigator. The classroom teacher also participated in the assessment of student social skills.

The class consisted of 24 students, 10 boys and 14 girls, ranging from age 8 to 10. The male physical education specialist held a Master's degree in Physical Education and had 13 years of experience at the elementary level. The female investigator, also held a Master's degree in Physical Education and had 3 years experience at the elementary level. Both the physical education specialist and the female investigator had participated in workshops and classes pertaining to the concepts of and use of cooperative learning strategies in the classroom during the previous two years.

Not all students in the class had difficulties with social interactions with peers. The decision was made by the university investigator and the physical education specialist to focus on a number of students, both popular and unpopular, who appeared to exhibit undesirable social interaction skills. These included behaviors such as name-calling, tattling, unsportsperson-like conduct, individual off-task behavior, and purposely causing others to be off-task as. Prior to formal assessment, observational data was used to identify target students. After four weeks of observation, the physical education teacher and the investigator independently identified students with

undesirable social interactions skills. By week six, eight students, four boys, JD, Joel, Nolan and Michael, and four girls, Cindy, Sunny, Annie and Susan, were identified as having undesirable social skills and were targeted. Figure 1 illustrates the undesirable social skills of each of the targeted students.

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Insert Figure 1 here

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Cooperative Learning Intervention

Following measures to identify students exhibiting socially undesirable behavior during the Fall semester of 1995, an eight week intervention was implemented beginning the fourth week of the Spring semester. The intervention included cooperative learning and team building activities and strategies (Hellison, 1995; Johnson & Johnson, 1992) that were used during the main body of the lesson. Johnson and Johnson's components of cooperative learning: positive interdependence, face to face promotive interaction, individual accountability, social skill practice and group processing (debriefing) were incorporated into all lessons when feasible. All lessons were planned by both the physical education teacher and the investigator, initially, prior to the onset of the study and later, at weekly meetings. While each of the lessons contained a physically challenging task, the focus of each lesson was on problem-solving and social interaction.

Instruments and Procedures

Data collection began the first day of school in the fall semester of 1995. Data collection incorporated both qualitative and quantitative measures. The qualitative methods used included participant observation and reflective and methodological logs. Quantitative instruments included teacher ratings, peer ratings (sociometric ratings), and the use of a systematic observation tool designed to analyze the social participation of students.

Participant Observations, Reflective and Methodological Log and Investigator Meetings. Observations, made by the university investigator, began the first time the

class met in physical education during the first semester of the new school year of 1995 and continued into the spring of 1996. Observations and field notes, approximately 45 pages, were used to describe students' social behaviors and participation in the physical education setting. Lesson planning and instructional data were kept in a methodological log following the completion of class each day. The investigator also kept a reflective log, which included approximately 25 entries, which was used to record impressions, questions, and concerns to be discussed with the physical education specialist prior to the next class meeting. The methodological log was used to keep notes regarding lesson format and instruction and its effect on interactions. Both investigators met on a regular basis after each class during the cooperative learning intervention. These discussions were audiotaped for later transcription and analysis.

Interviews. Both formal and informal interviews were conducted with students for the purpose of gaining the student's perspective on peers' social status, the cooperative learning activities and their own social skills. Informal interviews, usually in the form of conversation between the investigator and the student, were conducted daily.

In addition, formal interviews were conducted with seven of the eight selected students (one student moved following the intervention) and eight other students chosen randomly. Formal interviews were scheduled and conducted four to five weeks following the cooperative learning intervention. Interviews were conducted between the investigator and one student at a time and were conducted during the regular physical education class time. Interviews lasted 10-20 minutes and incorporated questions identified in Figure 2.

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Insert Figure 2 here

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Teacher ratings. The physical education teacher and the classroom teacher were asked to complete The Interpersonal Factors of the Social Skills Diagnostic Screen

(SSDS) developed by the Fort McMurray School District in Alberta, Canada (1993) in order to present another perspective of each student's social ability. The SSDS Interpersonal Factors Assessment consists of 43 statements which are rated by the teacher on a Likert scale from 1 (rarely) to 5 (almost always).

Pilot testing of the SDSS by Fort McMurray School District demonstrated general contextual validity which was later supported by comparison of mean scores for student groupings. Correlations between teacher ratings and student sociometric ratings have been found to be moderate (r=.33 - .53). In addition, the data gleaned from the teacher ratings's allowed for triangulation of data collected through the sociometric ratings.

Peer ratings. Peer ratings are a form of sociometric assessment in which each class member is rated along a continuum of attraction-rejection (Miller, 1991). The sociometric instrument was used to establish the social position of each student in the class based on peer assessment. Miller (1991) suggests that sociometric ratings offer considerable concurrent validity and that reliability coefficients are at first high(r=.76, .80, and .89) with a tendency to decline over time.

One week prior to the onset of, and one week following the cooperative learning intervention students were asked to answer the following questions:

1. If you could pick anyone in class to play with on the playground, who would it be? Please name your first three choices.
2. If you could work on a class project with anyone in class, who would it be? Please name your first three choices.
3. If you could pick anyone in the class to be on your team in PE, who would it be? Please name your first three choices.

The results were charted. A first place nomination was given a three point value, a second place nomination, a two point value, and a third place nomination, a one point value. Total scores were calculated for each area (playground, classroom and physical education) and a sociometric rating was established for each student. All areas were also totaled for an overall rating.

The Social Participation Scale. Prior to the cooperative learning intervention eight

class sessions were vidoetaped. Additionally, all cooperative lessons, and eight lessons following the intervention were also videotaped. Selected videotapes were analyzed using the Social Participation Scale (SPS), designed to measure the number of overt positive and negative social interactions of students taking place during the main body of a lesson. SPS is a systematic observation tool ,developed using behaviors identified in the SDSS Interpersonal Factors Assessment (1993) which uses an event recording system. Intra-observer event reliability (89%) was established before the intervention.

Data Analysis

A number of methods were used to analyze data collected throughout the course of the study. Quantitative data from teacher ratings and peer ratings (sociometrics) were analyzed to determine changes in means. Scores in each section of the teacher rating scale were summed and divided by the number of questions in the particular section of the assessment. Scores from the four areas of the rating form were then added together to obtain a total teacher rating score. Total scores for each of the target students were obtained from pre-and post intervention teacher ratings and compared for changes. Peer rating scores were totaled for the physical education context and pre- and post-intervention nominations were compared for changes in scores. Additionally, a class mean was calculated to compare each target student's score in relation to the class average. A paired *t*--test, and sign test were used to determine changes in scores following the cooperative learning intervention.

Analysis of videotape data only included three pre-intervention lessons, and six cooperative learning lessons, so some social interactions, positive and negative, may have been missed by the researcher. The inability to analyze post-intervention videotapes, limited the opportunity to study the lasting effect of the cooperative learning intervention. A multiple baseline approach would have provided a focus on changes occurring strictly based upon the cooperative learning intervention and not upon outside factors such as interactions in the classroom setting, playground, or cafeteria, or cooperative-type lessons taught in the classroom.

Qualitative data, including observations, videotapes, audiotapes, methodological and reflective logs were used to provide a depth of understanding of the affect of the cooperative learning intervention on social skill enhancement. Analysis of field notes was ongoing throughout the observation period prior to the cooperative learning intervention. Analysis provided information about the way students interacted with each other in the physical education setting. These patterns of interaction were generated by constantly comparing units of the data (Glaser & Strauss, 1967). Ongoing analysis strengthened, integrated or explored further these patterns of behavior. Final data analysis solidified consistent patterns of behavior that emerged for each participant.

Video tape data were analyzed to identify behavioral and interaction patterns of each of the target students. These data included ways each of the target students responded in given situations, and the other students in the class that the target student interacted with on a regular basis. Videotape data were also analyzed to verify information gleaned from field notes. Audiotapes of interviews were transcribed and analyzed. Interview data was employed to confirm or refute categories established from field notes and videotapes.

Additionally, Zimmerman's (1990b) empowerment framework, based on the concept of learned hopefulness was used to engage in a dialogue with the literature and the setting being observed. Possible applications of the literature and implications of the patterns of behavior found were explored during interpretation of this data. Zimmerman's learned hopefulness framework (1990b) included experience of control, perception of control, causal attribution of successful control, future expectations of control and characteristics of hopefulness.

Trustworthiness was established through triangulation of all data sources. Lesson plans, transcribed discussions between teachers, and field notes were employed to refute or verify patterns of interaction and categories of behavior across data sources and participants (Lincoln & Guba, 1985) . Patterns which emerged early in the data collection process were compared to patterns which emerged later. Negative cases

were analyzed and patterns and interpretations modified in light of any disconfirming evidence uncovered. Member checks with the other teacher took place continually formally and informally throughout the study.

## Results

### Teacher Assessment

Physical Education Teacher Ratings. Results of teacher ratings using the SDSS Interpersonal Factors Assessment were analyzed to determine how the pre-intervention scores of selected students changed following the cooperative learning intervention.

Six of the eight students identified as exhibiting undesirable social behaviors demonstrated an increased score on the teacher rating scale following the cooperative learning intervention. JD (+1.78), Joel (+1.16), Annie (+1.11), Sunny (+2.46), Susan (+1.13) and Nolan (+1.81), all increased their scores by more than one point (Figure 5). The teacher rating scores of both Cindy and Michael decreased, -1.36 and -1.35, following the cooperative learning intervention.

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Insert Figure 3 here

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Additionally, a sign test was conducted on teacher ratings for the target students to in order to check for statistically significant changes in scores. A paired *t*-test conducted on data for the entire class indicated no significant changes in scores pre-intervention to post-intervention (p=.45) Descriptive statistics (mean scores) indicated a positive increase in the areas of personal skills (+.03), social reasoning skills (+.15). No change was indicated in interpersonal skills. Classroom skills indicated a negative change (-.08).

Table 1 illustrates the results of the sign test and the paired *t*-test.

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Insert Table 1 here

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Six of the eight target students, JD, Joel, Annie, Sunny, Susan and Nolan,

increased scores in each of these specific areas. However, these results did not hold true for Cindy or Michael. Cindy's scores were consistently lower in the areas of personal, interpersonal and classroom social skills. In the area of social reasoning, Cindy's post intervention scores remained the same as the score in this area prior to intervention. Michael's scores in all areas of social skills dropped.

In relation to class means for total overall ratings, all eight target students' scores fell below the class average of 12.6, with the exception of Nolan, who's score of 14.8, was above the class average. However, with the exception of Cindy and Michael, all other target students' scores were closer to the class mean following the cooperative learning intervention.

Classroom Teacher Ratings. The classroom teacher rated each target student using the SDSS Assessment Scale pre and post-intervention. The results (see Figure 4) of these assessments concur with the physical education teacher's assessment of target students.

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Insert Figure 4 here

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The one exception was Susan, whose overall score was slightly lower following the cooperative learning intervention. On the post-intervention assessment form the classroom teacher commented that Susan was overly assertive in her dealings with other students in the class. This accounted for the lowering of her overall scores from the classroom teacher. One interesting aspect of the classroom teacher ratings was the fact that each of the targeted students, with the exception of Michael, surpassed the class average following the cooperative learning intervention.

Peer Ratings

The sociometric rating was examined for changes in scores of target students. Sociometric nominations conducted pre- and post-intervention presented a different picture of the eight target students. In the physical education setting, four student's scores indicated an increase in nominations (Figure 5). Michael's scores (M=4),

increased, as did Annie (M=3), Sunny (M=4), and Susan (M=6). Nolan (M=14) and JD (M=1) lost nominations following the cooperative intervention. Joel and Cindy received zero nominations both prior to, and following the intervention.

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Insert Figure 5 here

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While target students' nominations did approach the class mean post-intervention, only two students, Susan (M=6) and Nolan (M=14), exceeded the class average (M=5.5).

Social Participation

Changes occurred in target students (Figure 6) and in the number of interactions of other students (Figure 7).

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Insert Figures 6 & 7 here

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Nolan and Susan, two of the students, considered popular with peers, positive social interactions increased during the cooperative learning intervention in all categories of the SPS scale. Nolan appeared to be a very social individual from the beginning of the school year. Nolan had four boys with whom he spent most of his time. These boys included Matt, Carl, Trevor, and occasionally, JD. A combination of all or some of these boys could be found together in a group of some kind. Nolan described Carl as his best friend and wanted to participate with him all the time given the opportunity. He didn't like the idea of having to be assigned to a group that separated him from his friends.

Pre-intervention video analysis indicated that Nolan was very involved socially in the class. Nolan participated fully in most lessons, but didn't share very often and was not very assertive, rarely raising his hand to ask or answer questions. He did pay attention occasionally, but not as often as he could have.

Nolan did not participate fully during the initial activities of the cooperative learning

intervention, those activities which were used to introduce the concepts of cooperative learning. Once the more complex, challenging activities began, Nolan started to become more involved. Whether it was the physical nature or the cognitive nature of the activities which grabbed his attention is unclear. But he did become more involved, asserting himself more often and paying more attention to what was going on in class.

Susan, another of the popular target students had a few difficulties with social interactions during the cooperative learning intervention. Susan's pre-intervention social participation scores indicate that she participated about half the time in the various activities in the class and that listening attentively was not one of her best social skills.

Susan's positive and negative social interactions were changed by the cooperative learning intervention, and not always for the better. Her positive social interactions did increase. She paid closer attention during the cooperative learning intervention, listening quietly when Mr. Lewis or members of the class were speaking. She also participated in group activities more often, seeming to be more involved in what was going on in her particular group.

For the two unpopular students, Cindy and Joel, cooperative learning offered opportunities for more social interaction. Sometimes, though, these opportunities were not realized. Cindy's social participation scores showed a marked increase in group participation during the cooperative learning intervention. She did seem more involved in the cooperative group activities, but a closer inspection of the videotape data indicated that Cindy often found a variety of excuses not to participate. Discussions with Mr. Lewis indicated she often asked to be excused to go to the bathroom each time her turn approached during cooperative activities. Occasionally she would be sent back to her group to finish the task, but just as often she was excused to leave the class. By the time she returned, the activity had usually been concluded. The greatest area of Cindy's social skill improvement was in the area of paying attention to others. She also showed signs of increased cooperation and sharing.

Not all the changes that Cindy went through were positive, however. While scores

indicated that she was more willing to share and cooperate, there were occasions when she still refused to cooperate with others in her group, often withdrawing and standing by herself. It should be noted that when Cindy did engage in the cooperative activities she seemed to give it all of her attention and she stated that there were times when she felt others were paying attention to what she had to say and to her ideas.

Joel's reaction to the cooperative learning activities was extremely positive. While he didn't always get the respect he seemed to crave, he became much more assertive in dealing with others in the class, and less of a victim. His negative interactions dropped to zero in all categories. Positive social interactions increased in the areas of sharing with others, and listening attentively, and again in his assertiveness. Joel's hand-raising to ask questions or to give his opinion increased. He shared a number of ideas during debriefings on ways in which activities could be improved or why things went well or didn't work too well. Unfortunately, observational data indicated that Joel was still excluded by classmates on a number of occasions and he often removed himself from activities when he thought he was being ignored. On a positive note, however, these instances occurred less and less frequently as the intervention continued.

For the Sunny and Annie, and JD and Michael, the changes in social participation were quite divergent. For Sunny and Annie, usually attached at the hip, the cooperative learning intervention offered a number of positive experiences. Sunny showed great improvement in sharing with others, and in expressing herself in a positive manner. Her most dramatic increase was in the area of assertiveness. She constantly had her hand in the air, asking questions or offering opinions and answer to questions asked by the investigator or Mr. Lewis. Her negative interactions went down in all areas where there had been indications of problems prior to the intervention, participation, listening and expressing feelings positively.

Annie, also showed a decrease in her negative behaviors. She spent less time tattling or trying to gain attention from Mr. Lewis. She was more attentive in class and participated more fully. Positive interactions increased in the areas of participation,

listening, expressing feelings positively and in assertiveness. Annie and Sunny seemed to get along much better and Annie was greatly missed by Sunny when she moved away late in the spring.

JD's scores are a little more difficult to analyze. On the surface, looking strictly at the numbers, JD had a difficult time during the cooperative learning intervention, showing an increase in negative behaviors and a decrease in positive behaviors. These numbers, however, are misleading. JD was not present for a number of videotaped lesson prior to the intervention, making it difficult to get a baseline score for him. During the early cooperative learning activities, JD seemed disinterested, a condition he attributes to "not knowing what was going on". During the later sessions he increased in participation and cooperation, often taking the leadership role in his group, directing group activities. He always seemed to be trying hard.

Michael had a great deal of trouble during the cooperative learning intervention. Prior to the start of cooperative activities it was evident that Michael had some behavior problems. He often lost his temper, stomping his feet, and yelling at the students he was working with. Occasionally he refused to participate with Joel, or any of the girls. He was often off-task, and not listening while trying to distract others around him. When the class was trying to learn a country western dance, Michael spent most of the class playing with the hat on his head, moving it into different positions and trying to get others to laugh at him.

As the cooperative learning intervention began and progressed, Michael's behavior deteriorated. His scores in attentiveness did increase, he seemed to able to sit still for longer periods of time, but still showed signs of impatience if too much talking was going on. His participation level dropped during the cooperative activities. There just didn't seem to be enough action going on, and the idea of having to wait for others to complete a task was distressing to Michael. He paced, he wandered, he laid down, he got up, he picked up equipment, anything to keep himself entertained. Michael did become more assertive. In one instance, during the "King Tut" game, his team was struggling to get the whole team across the desert. When the established leader of the

group lost his balance and fell off the barge, having to return to the edge of the desert, Michael took over the leadership position, moving his team from last place to first place. This was a positive experience for Michael, but one that wasn't repeated often. Of all eight targeted students, Michael seemed to benefit least from the cooperative learning activities.

Perceptions of Change

Interview data were also used to investigate changes in social position in the class and whether students felt the cooperative learning unit had any impact on their social interactions.

JD and Michael were rather reticent about their feelings about social status. JD's nominations changed little from pre- to post-intervention. He said he still preferred to play with his friends during PE class, but did feel he had learned some new ways to solve problems and to get along with others.

Sunny agreed that people in the class got to know each other better because of the nature of the cooperative learning activities. Being assigned to groups forced different people to work together. However, she did note that while she got to know other people in the class better it had little to do with who she nominated on her sociometric questionnaire. At one point in the interview, she asked what the sociometric information was to be used for. She wanted it to be very clear that when she had answered the sociometric questions prior to the cooperative learning unit, she and her friend Annie, also a target student, had been fighting and she had not nominated her at that time. Since then they had "gotten back together" and she had nominated Annie first on the sociometric questionnaire first in all three areas. This then accounted for Annie's increased number of nominations post-intervention.

Susan suggested that working in different groups had a real impact on who interacted together. In response to the question of how the class had gotten to know each other, she said:

> I think they kind of got to know each other better like in how people work together. Like who you want to have, maybe, out there, say you played

> with this one person--they don't have very good social skill in PE, and, say, you've never played with this one person, and then they had really good social skills and you have never known that. And so you started, like, playing with them.

Nolan had little use for cooperative learning. Not only did he feel that he hadn't learned new social skills, he didn't feel he had gotten to know anyone any better, "Not really. All we did was play games." When comparing the sociometric nominations Nolan made pre- and post-intervention showed no change at all. He nominated the same three boys in exactly the same order. These were the boys he played with when the class was allowed to form their own groups, and the same boys he played with on the playground.

Joel, the one target student who received zero nominations either prior to or following the cooperative learning intervention, expressed several times during his interview that he thought members of the class were "mean" to him. He had grasped the concept that part of cooperative learning was to "stop being mean." He didn't feel he had learned anything that helped him get along with others any more successfully. He mentioned that he thought the cooperative lessons had given him the opportunity to be "listened to," but continued to return to the notion that he had been mistreated. When asked who he would want to have on his team, he still picked four boys who he had previously suggested, and who had not treated him well.

Cindy mentioned that having to work in assigned groups had made others want to work with her, although she said that she still didn't think anyone paid attention to her ideas. When asked who she would not want to have on her team she mentioned four girls, Susan, Helen, Katie, and Kelly. She said these girls were all mean to her outside of class. Yet Cindy's sociometric nominations, following the cooperative learning unit, included Susan, Helen and Kelly.

Interviews were also conducted with several other members of the class in order to get their perceptions of the cooperative learning unit and its effect on social status. Most felt that they had learned some useful skills from the cooperative unit and had the

opportunity to know others in the class. When asked about students they would not want on their cooperative team in PE, Joel was mentioned a number of times, further reflecting his low status in the class. He was described as "uncooperative", "someone who yells when people don't do what he wants", someone who just "walks away". Another student stated he wouldn't want Joel on his team "cause every time he doesn't get his way, he starts to cry". This was a behavior observed several times throughout the course of the study.

Cindy's low status was also mentioned by others during interviews. She wasn't included because "she just stays out of it. She doesn't really cooperate....she would be part of our team, you know, but she wouldn't do anything."

## Discussion

Results of this study offer a number of interesting considerations in the process of social skill enhancement. The purpose of these cooperative learning activities was to give students the opportunity to learn and practice social skills through cognitive-type experiences, such as problem-solving activities. Cooperative activities were designed to require students to work together to brainstorm and then execute a plan to complete each challenge. It was this process which enhanced the social reasoning of the class members. The teacher ratings analysis demonstrated no statistically significant changes in pre- and post-intervention scores, an examination of the means of the teacher ratings of the target students indicated that changes were taking place in two of the areas in the teacher rating scale; a positive change in social reasoning and a negative change in cooperative behavior.

The classroom behavior scores were lower following the cooperative learning unit. This might be explained through the change in climate of the classroom and gymnasium. The classroom teacher in this study maintained a traditional classroom where everything was controlled by the teacher. The cooperative classroom requires a shift in the responsibility of teaching and learning from the teacher to the student, empowering the students to make decisions in their own learning process. Students moving from one setting to the other may exhibit behaviors acceptable in one setting

and unacceptable in another. A cooperative classroom is often noisy, and very active, an atmosphere that might make an outsider or a teacher unused to such unbridled learning uneasy. Despite the decrease in scores in the area of classroom behavior, the classroom teacher's student assessments did indicate an increase in the scores in the area of social reasoning.

Parkhurst and Asher (1992)and McConnell (1987) have suggested that once a child has been judged socially undesirable by peers, it is very difficult to change that perception. Results of the peer ratings prior to and following the cooperative learning intervention, concur with their findings. Of the popular students, Susan's scores increased to above the class average. While Nolan's scores did decline slightly, his post-intervention peer ratings were still well above the class average. The "in-betweeners", Annie, Sunny, and Michael, all increased sociometric nominations, post-intervention. JD's dropped by one point. It was the two unpopular students, Joel and Cindy, who showed no change in social position, as measured by peers, following the cooperative learning intervention. Though both of these students showed a marked increase in teacher ratings post-intervention, it seemed to have little effect on how their peers felt about them. Peers also make up their minds about other children and in spite of changes in behavior made by unpopular students. McConnell (1987) has shown these perceptions persist. Findings indicate the need to begin social skill training and practice earlier than third grade, and that interventions may need to be made more often. Social status is established very early in a child's social life (McConnell, 1987). Any attempt to enhance that status must begin with a child's introduction into society.

The cooperative learning intervention did provide empowerment opportunities for many of the target students. As the unit progressed, Joel was able to better cope with social situations. He gained a sense of perceived control over his own environment. This perception of control and its effect on one's ability to better deal with social issues is inherent to Zimmerman's (1990b) theory of learned hopefulness. Once an individual begins to gain control and mastery of a social situation, they become empowered within

that situation. However, the study also suggests that simply providing students the opportunity to experience control is not enough. Empowerment does not exist in a vacuum. The fact that Joel became more assertive due to feelings of control over his environment did not mean that his peers were any more inclined to recognize his new confidence. Future studies must explore the empowerment of the individual, but also the individual's place within a group and how the group interacts.

Considerations must be made for individual differences in designing cooperative learning activities. What was obvious during this study was that for some children, often those who are already leaders or are very assertive and used to being in control of their environment, cooperative learning may provide a very uncomfortable environment. Data analysis indicated that each of the target students demonstrated a change in social participation during the cooperative learning intervention. Most changes were positive, however, a number of the target students had difficulty adjusting to the concept of cooperation and the various aspects which comprise cooperative learning activities.

Nolan seemed to be bored with many of the activities, barely participating. He continually asked when the class would be returning to more competitive activities. Had the cooperative activities taken away Nolan's perceived control of his surroundings? Once the more complex, challenging activities began, Nolan started to become more involved. Whether it was the physical nature or the cognitive nature of the activities which grabbed his attention is unclear. But he did become more involved, asserting himself more often and paying more attention to what was going on in class. Future studies should include questions about students' perception of control in different types of activities.

Susan was a dominant presence in the class, especially with several of the girls she participated regularly with in the class. Susan's positive and negative social interactions were changed by the cooperative learning intervention, and not always for the better. Her positive and negative interactions increased during the cooperative learning intervention. Her assertiveness scores remained the same pre- and during

intervention, but instances of assertiveness were not always positive. Susan seemed to have difficulty during the cooperative learning intervention, particularly in the area of sharing and cooperating, things she often had little control over.

Students must have certain cognitive and language skills to successfully complete many cooperative tasks. The premise behind cooperative learning is that individuals are allowed to take on a variety of roles as activities are completed and they must have the skills to do them. These roles include positions of leadership and followship. For some students cooperative activities often exacerbated their already assertive nature, threatening their need for control. For these students, as well as those on the other extreme, it might be wise to ease into cooperative activities in order to lessen the dissonance caused by changes in roles and expectations.

The results must be considered in relation to limitations experienced during the study. It is unclear what types of interactions occurred outside of the physical education setting which may have influenced the social status of target students. Observational and videotape data collection only occurred during some of the lessons in the physical education context. While attempts were made to observe students on the playground, the presence of students from other classes, participating at the same time, limited the number of interactions observed between students in the class participating in the study.

The way in which this study was conducted offered a number of unique opportunities for research. The decision to blend qualitative and quantitative data collection methods offered a unique opportunity to discuss results with increased depth and breadth. The quantitative data provided specific information about changes occurring in the social assessment of students by peers and teachers and in the amount of social interaction taking place between target students and their peers. The qualitative data revealed the perceptions of students as to why changes were occurring and the impact that they felt cooperative learning had on those changes. Interview data also provided a glimpse into the way children assess each other's social skills and how that assessment influences interactions. Multiple perspectives are invaluable for

beginning teachers in understands perceptions of social interactions of students.

It was evident following the cooperative learning intervention, that cooperative activities can enhance social status and social skills of some students, but not all. While some or most students may thrive in the cooperative atmosphere, indicating some signs of learned hopefulness (Zimmerman, 1990b), others may have difficult times dealing with the different roles that individuals must take on during cooperative activities. For students who fear making a mistake or are afraid of being laughed at if they fail, the cooperative atmosphere offers safety in numbers, winning and losing, or successfully completing a task in not dependant on one person alone. Results of the study suggest that cooperative learning is a place to start and one component among some to bring about changes in social isolation and inclusion. Future studies in the area of social skill enhancement in the physical education setting must, however, go beyond cooperative learning. While it may be that first step in learning and practicing social skills the curriculum for social skill enhancement must be expanded beyond basic cooperative activities. The study indicated that cooperative activities can enhance social skills, however, it was also clear from the results, that for children experiencing difficulty with social interactions, simply learning those social skills necessary within a given context, is not enough to guarantee social success. Studies must investigate how the perceptions of other individuals within the setting can be changed.

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| | sign test | | | | paired t-test | | | |
|---|---|---|---|---|---|---|---|---|
| | (+) diff. | (-) diff. | zero diff. | prob. result as or more extreme than observed | pre mean | post mean | post-pre | p-value |
| PERSONAL | 2 | 6 | 0 | 0.14 | 3.12 | 3.15 | +0.03 | .63 |
| INTERPERSONAL | 2 | 6 | 0 | 0.14 | 2.92 | 2.92 | 0 | .80 |
| SOCIAL REASONING | 1 | 6 | 1 | 0.06 | 2.67 | 2.82 | +0.15 | .19 |
| CLASSROOM | 2 | 5 | 1 | 0.23 | 3.51 | 3.43 | -0.08 | .37 |
| **TOTAL** | 2 | 6 | 0 | 0.14 | 12.2 | 12.4 | +0.43 | .45 |

Table 1. Statistical Analysis of Teacher Ratings.

| SUBJECT | BEHAVIOR |
|---|---|
| JD | off-task, distracting to others |
| Joel | crying, pouting, withdrawn |
| Nolan | off-task, distracting to others |
| Michael | outbursts, verbal and physical, distracting to others |
| Annie | withdrawn, tattling, hypersensitivity |
| Sunny | tattling, name-calling |
| Cindy | withdrawn |
| Susan | name-calling, unwilling to share, overly assertive |

Figure 1. Target Student Behaviors

1. Do you feel you learned any new ways to deal with your friendships with others? Were you able to use those skills on the playground? classroom?
2. Because you were grouped by the teacher and myself and did not choose your own group, do you think you got to do more? Were your ideas listened
3. You learned some new ways to solve problems. Were you able to use those elsewhere?
4. Would you like to do more cooperative activities?
5. If you could choose anyone in class to be on a cooperative team who would it be and why? If there was someone in class that you wouldn't want to have on your cooperative team, who would it be and why?

Figure 2. Student Interview Questions.

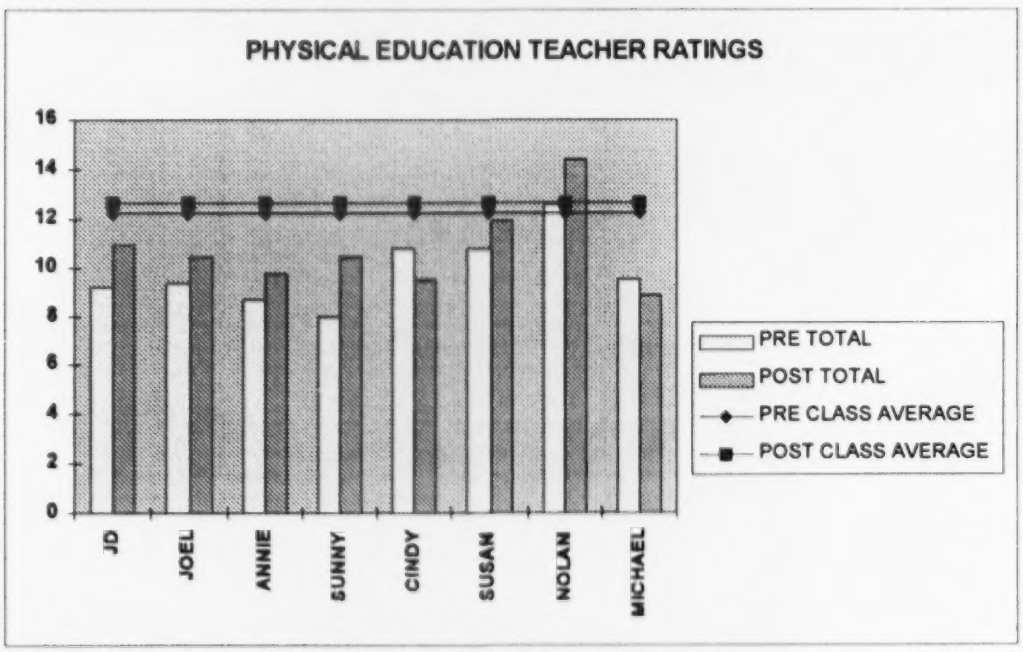


Figure 3. Physical Education Teacher Ratings of Target Students.

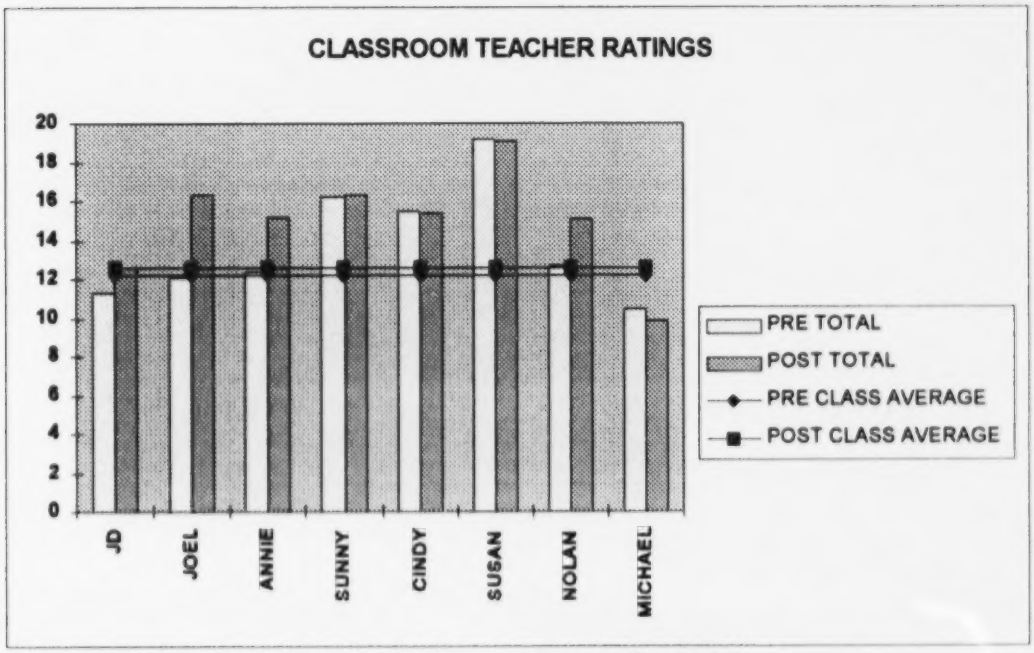


Figure 4. Classroom Teacher Ratings of Target Students.

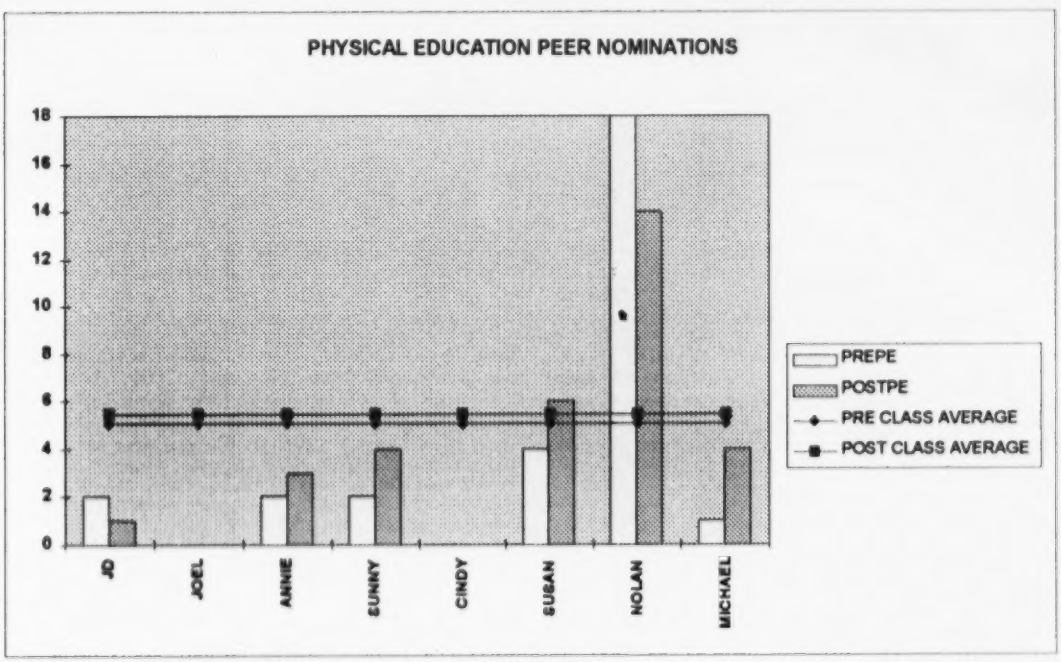


Figure 5. Physical Education Peer Nominations.

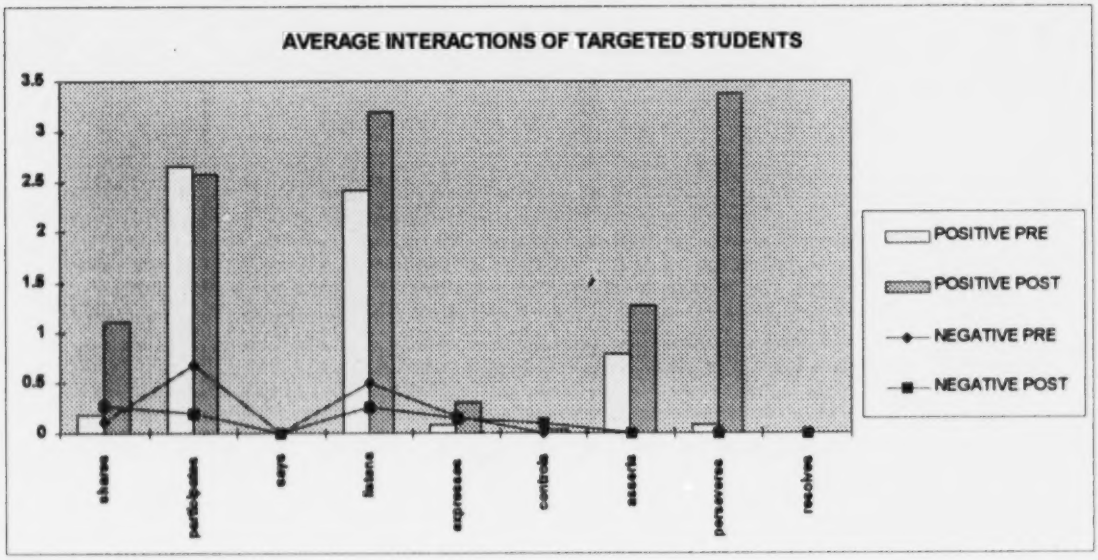


Figure 6. Average Interactions of Targeted Students

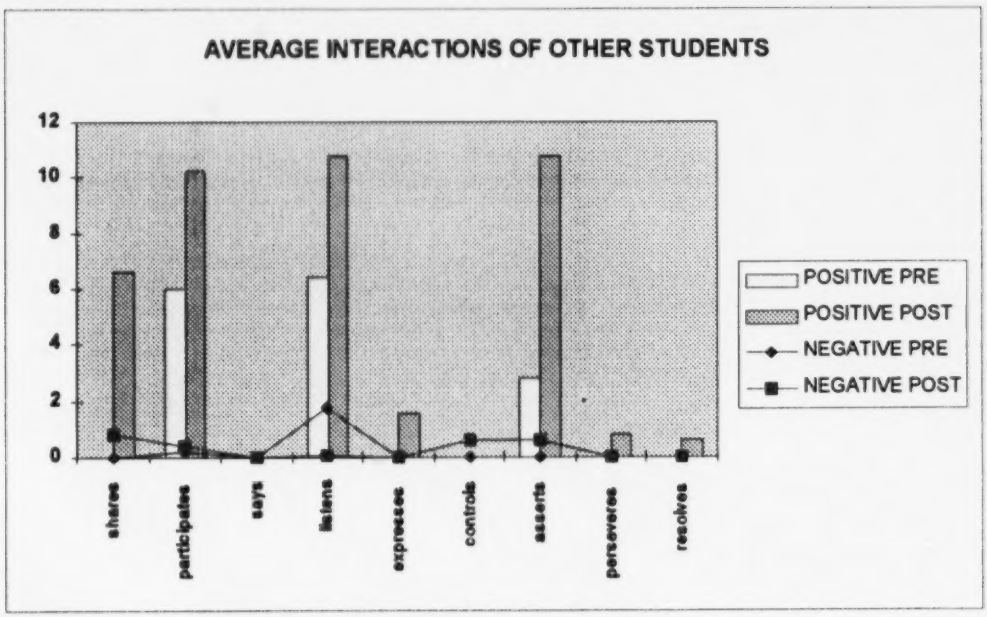


Figure 7. Average Interactions of Other Students.